UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,612	09/15/2005	Federico Mancosu	07040.0210	5064

22852 7590 09/04/2008

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP
901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER	
KNABLE, GEOFFREY L	
ART UNIT	PAPER NUMBER
1791	

MAIL DATE	DELIVERY MODE
09/04/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/519,612	MANCOSU ET AL.	
	Examiner	Art Unit	
	Geoffrey L. Knable	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *25-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *25-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/6/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. Claims 27 and 40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 27 defines that the crosslinkable material is brought to a certain degree of crosslinking upon a certain level of heating. It however is not entirely clear how this heating fits into the overall process defined in claim 25. In particular, it is not clear if this claim is requiring heating distinct from any heating that might be caused with tire rotation. In other words, it is not clear if it is requiring a positive step of heating beyond simply that which may occur with tire rotation.

Claim 40 defines that the crosslinkable material is at least partially crosslinked. It however is not entirely clear if this is intended to require that the cross-linkable material in the kit is in fact crosslinked.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 36-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Koch et al. (US 6,244,104) or Koch et al. (US 5,971,046).

Koch et al. '104 discloses a device (10) and fixing element (64 - fig. 12) in the form of uncured rubber and thus a crosslinkable elastomeric material. The kit as defined in claim 36 is therefore anticipated by this disclosure. As to claims 37 and 38, the device is an electronic monitoring device and therefore would include a sensor and it is bonded to the fixing element 64.

Likewise, Koch et al. '046 discloses a device (30/130) and fixing element (20/120) in the form of a crosslinkable elastomeric material. The kit as defined in claim 36 is therefore anticipated by this disclosure. As to claims 37 and 38, the device includes a sensor mounted to a substrate (34/134) and is bonded in recess (16/116).

6. Claims 36, 37 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Balzer et al. (US 6,217,683) or Koch et al. (US 6,030,478).

Balzer et al. discloses a device (E) and fixing element (32/132) in the form of uncured rubber and thus a crosslinkable elastomeric material. The kit as defined in claim 36 is therefore anticipated by this disclosure. As to claims 37 and 39, the device

(E) is an electronic monitoring device and therefore would include a sensor and it is mechanically associated with the fixing element (note various mechanical attachments).

Likewise, Koch et al. '478 discloses a device (70) and fixing element (20) in the form of a crosslinkable elastomeric material. The kit as defined in claim 36 is therefore anticipated by this disclosure. As to claims 37 and 39, the device includes a sensor mounted to a substrate (34) and is mechanically located in recess (16).

7. Claims 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koch et al. (US 5,971,046) taken in view of at least one of [Chambers et al. (US 3,036,620) and Domzalski (US 1,897,927)].

Koch et al. '046 discloses applying a device (30/130) to an inner surface of a tire using a patch type fixing element (20/120) in the form of a crosslinkable elastomeric material. Given that bonding is not complete until the patch is cured, the uncured rubber would have been expected to be repositionable. As to rotating the tire to crosslink the crosslinkable material and adapt the shape, Koch et al. '046 indicates that the material can cure without heat but that some heating will speed the curing process. Chamber et al. (e.g. col. 1, lines 26-35) and Domzalski (page 1, lines 75-78) provide evidence that it is well known to cure tire patches using the heat generated during tire running. As such, it is considered that the ordinary artisan would have found it obvious to utilize the heat of running to help vulcanize the patch, the advantages of avoiding external heating devices being readily apparent. Further, the centrifugal force acting on the still uncured material would have been expected to help adapt the shape to the tire

internal surface. A method as required by claim 25 would therefore have been obvious. As to claim 26, Koch et al. '046 applies the device to the crown.

8. Claims 27, 28, 31-33, 40, 41 and 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over (for the Kit claims) Koch et al. (US 6,244,104) or Koch et al. (US 5,971,046) or Balzer et al. (US 6,217,683) or Koch et al. (US 6,030,478) or (for the method claims) Koch et al. (US 5,971,046) taken in view of at least one of [Chambers et al. (US 3,036,620) and Domzalski (US 1,897,927)], as applied above, and further in view of Massoubre (US 3,477,968).

As to claims 27 and 40, as already noted, it is not clear if this claim is requiring that the crosslinkable material in the kit is in fact crosslinked. In any event, the particular degree/speed of crosslinking would have been readily and routinely selected by the artisan for only the expected results. Note further a vulcanization speed consistent with that claimed is known to be suitable and effective for tire patching materials in view of Massoubre (esp. col. 3, lines 27-32). As to claims 28, 31-33, 41 and 44-46, the primary references do not detail the composition of the uncured rubber material for bonding to the tire inner surface. To include plasticizing oil, reinforcing fillers, sulfur, accelerators and nitrogen containing co-accelerators at suitable amounts would however have been obvious to the ordinary artisan in view of Massoubre for example which is directed to vulcanizable patching materials for tires and suggests that such materials are suitably included in the patching materials.

9. Claims 29, 30, 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over (for the Kit claims) Koch et al. (US 6,244,104) or Koch et al. (US

5,971,046) or Balzer et al. (US 6,217,683) or Koch et al. (US 6,030,478) or (for the method claims) Koch et al. (US 5,971,046) taken in view of at least one of [Chambers et al. (US 3,036,620) and Domzalski (US 1,897,927)], as applied above, and further in view of Böhm et al. (US 5,645,674).

As to claims 29, 30, 42 and 43, the primary references do not detail the composition of the uncured rubber material for bonding to the tire inner surface. Inclusion therein of any well known vulcanization system would therefore have been obvious for only the expected and predictable results. Peroxide vulcanization is one such well known manner to vulcanize rubber - Böhm et al. (esp. col. 5, line 47 - col. 6, line 20) is exemplary of the well known use of peroxides to vulcanize rubber. The particular cure rate would have been readily and routinely selected by the artisan through routine optimization for only the expected and predictable results.

10. Claims 34, 35, 47 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over (for the Kit claims) Koch et al. (US 6,244,104) or Koch et al. (US 5,971,046) or Balzer et al. (US 6,217,683) or Koch et al. (US 6,030,478) or (for the method claims) Koch et al. (US 5,971,046) taken in view of at least one of [Chambers et al. (US 3,036,620) and Domzalski (US 1,897,927)], as applied above, and further in view of at least one of [Harrison et al. (US 1,434,892) and Carver (US 3,136,673)].

Providing the vulcanizable binding layer in the form of a two layer structure, one layer including sulfur without accelerator and the other the accelerator without sulfur would have been obvious in view of Harrison et al. (esp. page 1, lines 45-84) and Carver (note layers 7 and 9 and col. 2, lines 37-42) which each evidence that this is a

well known manner of avoiding premature vulcanization in adjacent rubber layer in this art. Only the expected and predictable results would have been achieved.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 571-272-1220. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Geoffrey L. Knable/
Primary Examiner, Art Unit 1791

G. Knable
August 30, 2008